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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/687,594	10/20/2003	Takuya Noda	1359.1085	2548

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EXAMINER

SIEDLER, DOROTHY S

ART UNIT	PAPER NUMBER
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2626

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/17/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/687,594	Applicant(s) NODA ET AL.	
	Examiner Dorothy Sarah Siedler	Art Unit 2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10-20-03 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>12-23-03, 10-13-06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This is the initial response to the office action filled October 20, 2003. Claims 1-10 are pending and are considered below.

Claim Objections

Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). The term "voice recognizing" in claim 1 is used by the claim to mean, "recognizing a voice command", while the accepted meaning is "recognizing the identity of the voice." The term is indefinite because the specification does not clearly redefine the term. A more appropriate term would be "speech recognition", which is the recognition of spoken words, including voice commands.

Claim 3 is objected to because of the following informalities: Claim 3 recites the term "S/N of a user voice", however no clear definition of "S/N" is provided. Therefore the examiner interprets "S/N" as a signal to noise ratio for a voice signal, this interpretation used throughout the remainder of this application. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1,5,9 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by **Storm** ("Intelligent Barge-in in Conversational Systems" ICSLP 2000).

As per claim 1,9 and 10, **Storm** discloses a voice interactive system, comprising: an acoustic processing part for performing acoustic signal processing with respect to an input voice signal (page 652, section 1. Introduction, last paragraph, *a barge-in is detected based on short term acoustic measurements*); a voice recognizing part for recognizing contents of a voice contained in the voice signal after being subjected to the acoustic signal processing (page 652, section 1. Introduction, last paragraph, *verification of the barge-in is performed using the confidence measure from the speech recognizer*); a voice interacting part for transmitting information to a user through a voice output or a combination of the voice output and another information transmission unit based on the contents of the voice (page 652, Abstract and section 1. Introduction, *the system disclosed resolves barge-in problems in conversational systems, and*

*specifically attempts to determine when it is appropriate to enable the user to barge-in during dialogue states. Therefore it is inherent that the system transmits information to the user through voice output or a combination of voice output and another information transmission unit); and a barge-in control part having a barge-in function of suspending transmission of information by an input or an output of the acoustic processing part, or an input signal from an external input in the course of the transmission of information, wherein the barge-in control part detects one or more feature values from the input or the output of the acoustic processing part, or the input signal from the external input, and determines whether or not the barge-in function is set to be effective based on the one or more feature values (page 653, section 3. Verification, *the detection of a barge-in, which determines if the system output is turned off or not, is detected by comparing the recognition confidence score to a threshold*).*

As per claim 5, **Strom** discloses the voice interactive system according to claim 1, wherein the voice interacting part notifies the user of an effective/non-effective state of the barge-in function using at least one of a voice and another information transmission unit (page 654, section 5. Declining Barge-in, *the system uses pre-emphasis and increasing of the loudness of the system output to indicate to the user that a barge-in was not allowed (non-effective)*).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-4 and 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over ***Strom*** in view of ***Stifelman*** (7,143,039).

As per claim 2, ***Strom*** discloses the voice interactive system according to claim 1, however ***Strom*** does not explicitly state wherein at least one of the one or more feature values is a noise feature value, and the barge-in function is set to be non-effective in a case where the noise feature value exceeds a predetermined threshold value. However, ***Strom*** does disclose that verification is performed on an input signal to determine if the audio is a user utterance, background noise or non-speech sound such as a cough (page 653, section 3. Verification, first paragraph). In addition, ***Stifelman*** discloses detecting noise and comparing it to a predetermined threshold (column 24 lines 34-37). When the noise exceeds the predetermined threshold value a fall-back flag is set, which indicates voice recognition errors. The system then tries to correct the recognition error, in order to complete the barge-in. ***Strom*** and ***Stifelman*** both disclose systems to prevent falsely triggered barge-ins.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use a noise feature value, and have the barge-in function set to be non-effective in a case where the noise feature value exceeds a predetermined threshold value in **Strom**, since it would enable the system to distinguish between noise, or other audible signals, and a user utterance, thus preventing the system from needlessly interrupting the delivery of content, as indicated in **Stifelman** (column 19 lines 26-29 and column 23 lines 24-27).

As per claim 3, **Strom** discloses the voice interactive system according to claim 1, however **Strom** does not explicitly state wherein at least one of the one or more feature values is a S/N (signal-to-noise ratio) of a user voice, and the barge-in function is set to be effective in a case where the S/N exceeds a predetermined threshold value. However, **Strom** does disclose that verification is performed on an input signal to determine if the audio is a user utterance, background noise or non-speech sound such as a cough (page 653, section 3. Verification, first paragraph). In addition, **Stifelman** discloses detecting noise and comparing it to a predetermined threshold (column 24 lines 34-37). When the noise exceeds the predetermined threshold value a fall-back flag is set, which indicates voice recognition errors. The system then tries to correct the recognition error, in order to complete the barge-in. **Strom** and **Stifelman** both disclose systems to prevent falsely triggered barge-ins.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use a S/N (signal-to-noise ratio) feature value, and have the barge-in function set to be effective in a case where the S/N feature value exceeds a predetermined threshold value in **Strom**, since it would enable the system to distinguish between noise or other audible signals and a user voice input, and prevent the system from needlessly interrupting the delivery of content, as indicated in **Stifelman** (column 19 lines 26-29 and column 23 lines 24-27).

As per claim 4, **Strom** discloses the voice interactive system according to claim 1, however **Strom** does not explicitly state wherein at least one of the one or more feature values is positional information of the user detected from the input signal from the external input, an environment evaluation value of a position of the user is calculated based on the positional information and environmental information, and the barge-in function is set to be non-effective in the case where the environment evaluation value exceeds a predetermined value. **Stifelman** discloses that a fall-back flag is set when information is provided from the audio signal that indicates a low match environment is present (column 24 lines 32-34). A users location, which can be easily determined through GPS, provides an indication of their location, and thus environment. Many common public areas are very noisy, each with a specific type of common background noise.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have one or more feature values as positional information of the user

detected from the input signal from the external input, an environment evaluation value of a position of the user is calculated based on the positional information and environmental information, and the barge-in function is set to be non-effective in the case where the environment evaluation value exceeds a predetermined value in **Strom**, since it would enable the system to distinguish between noise, or other environment specific audible signals, and a user voice input, and prevent the system from needlessly interrupting the delivery of content, as indicated in **Stifelman** (column 19 lines 26-29 and column 23 lines 24-27).

As per claims 6,7 and 8, **Strom** in view of **Stifelman** disclose the voice interactive system according to claims 2,3 and 4, and **Storm** further discloses wherein the voice interacting part notifies the user of an effective/non-effective state of the barge-in function using at least one of a voice and another information transmission unit (page 654, section 5. Declining Barge-in, *the system uses pre-emphasis and increasing of the loudness of the system output to indicate to the user that a barge-in was not allowed (non-effective)*).

Conclusion

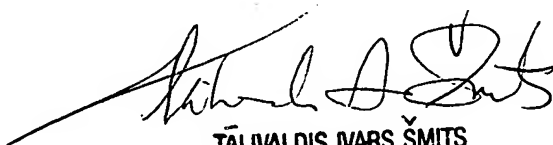
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Please see PTO-892 form.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dorothy Sarah Siedler whose telephone number is 571-270-1067. The examiner can normally be reached on Mon-Thur 9:30am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on 571-272-7602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DSS



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PRIMARY EXAMINER